

# NORTH CAROLINA **MARITIME** Strategy

## **NC Maritime Strategy Overview of Potential Funding and Financing Strategies for North Carolina's Port Projects**

**Prepared for the  
North Carolina Department of Transportation**

**by**

**AECOM  
in association with URS**

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## ACKNOWLEDGEMENTS

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Initiated by the Governor's Logistics Task Force (GLTF), the *North Carolina Maritime Strategy* takes a fresh look at North Carolina's maritime assets and the needs for improvement to ensure that our State remains competitive in the future. A *Maritime Strategy* Executive Team has been formed to oversee this process, evaluate the results and provide an objective technical and economic analysis. The *Maritime Strategy* Executive Team includes: Lieutenant Governor Walter Dalton; the Governor's Senior Policy Advisor, Al Delia; Secretary of Transportation, Gene Conti; Secretary of Commerce, J. Keith Crisco; and Secretary of Environment and Natural Resources, Dee Freeman. The following North Carolina Department of Transportation (NCDOT) and North Carolina Department of Commerce (NCDOC) staff have provided day-to-day direction, guidance and support for study execution: NCDOT Director of Strategic Initiatives, Roberto Canales PE; NCDOT Project Manager, Virginia Mabry; NCDOT Liaison to the Lieutenant Governor, W. Seth Palmer; NCDOT/Commerce Liaison Joseph (Jed) McMillan; and Transportation Consultant to NCDOT and Global TransPark, Charles Diehl.

A Maritime Advisory Council, comprising State officials and staff, along with industry representatives from ocean shipping, trucking, rail and manufacturing interests, as well as community-at-large representatives, has provided further guidance and support to the study team. A roster of Advisory Council membership is included in the appendix of this report.

Finally, broad-based stakeholder outreach is key to successful development of the statewide *Maritime Strategy*. A comprehensive and ongoing public involvement program has provided additional input to the study by engaging the public, agencies and others through a series of informational meetings, public workshops and focused discussions with industry, as well as environmental and community groups.



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## EXECUTIVE SUMMARY

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The *North Carolina Maritime Strategy* is being developed to connect maritime goods and economic development in North Carolina. This is accomplished through the following primary tasks:

- Facilitated collaboration of freight transportation, economic development and community interests as input to the statewide strategy,
- Definition of North Carolina's economic context and maritime market positioning strategies that would offer the greatest economic benefit to the State, and
- Identification of infrastructure investments and policies that would most significantly enhance North Carolina's economy through improved performance of the State's maritime gateways and related trade corridors.

The *North Carolina Maritime Strategy* will define maritime market scenarios in which the State could realize economic and public benefit. Opportunities to be explored will include those associated with import and export of containerized cargo, as well as the potential for expanded bulk, breakbulk, petrochemical and military cargos. Special emphasis will be made to link potential market positions with industry in the State. The range of market position alternatives to be investigated may include regional transshipment of goods, container-on-barge service and major international container terminal operations.

For each viable market scenario, the Strategy will define its infrastructure needs. Transportation investments to be examined may include reconfiguration or modernization of existing port facilities, new terminal developments, wharf and channel improvements, road and rail connections, and inland intermodal facilities. A comparative analysis of development alternatives will be conducted to measure the relative benefits, effectiveness and costs associated with various alternatives for market positions and associated infrastructure.

As input to the definition of infrastructure needs and opportunities, this *Overview of Potential Funding Strategies for North Carolina's Port Projects* provides an overview of potential funding and financing strategies that may be used to advance the construction and operation of proposed improvements to North Carolina's maritime assets and supporting infrastructure. This is an overview of the strategy, identifying potential yield, eligible uses of funds and the applicability to capital or operating expenses, and any requirements to apply matching funds for eligibility. Development of project specific financing strategies or cash flow analysis of candidate investment options is reserved for future work.



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## 1 INTRODUCTION

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This Technical Memorandum provides an overview of potential funding and financing strategies that may be used to advance the construction and operation of proposed improvements to North Carolina's maritime assets and supporting infrastructure. This is an overview of the strategy, identifying potential yield, eligible uses of funds and the applicability to capital or operating expenses, and any requirements to apply matching funds for eligibility. Development of project specific financing strategies or cash flow analysis of candidate investment options is reserved for future work. Rather, this memorandum represents a first look at possible funding and financing approaches and is provided in order to open a dialogue about what strategies appear most promising in order to prioritize future work. It is anticipated that the listing of strategies provided here will be refined and augmented as specific project development advances.

The *Maritime Strategy* outlined as part of this study effort identifies a range of capital investments that would be required to capitalize on target market opportunities. There is a large variation in size across the investments considered, ranging from \$24 million for specific on-terminal and equipment investments to \$1.5 billion for the construction of a new deep-water container terminal. Highway investments, proposed for implementation over multiple decades, total \$3 billion or more for certain market scenarios.

Port improvement projects are capital-intensive, increasingly requiring project sponsors to assemble funding from multiple sources as maintenance and expansion needs outstrip the growth in program revenues. This memorandum examines the options for Federal and State and Local participation. Additionally, private investment opportunities and benefit capture strategies are explored so that non-governmental revenues can be identified and leveraged to demonstrate local commitment and support the case for Federal and State participation.

Specifically, this report contains detailed information on the following four elements:

1. Federal, State and Local Funding Programs
2. Opportunities for Private Sector Investment
3. Case Studies
4. Project Beneficiaries and Related Funding Sources



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## 2 FEDERAL FUNDING PROGRAMS

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This section documents Federal funding and financing options and identifies which programs are likely to be most applicable for port improvement projects and associated landside improvements. The following Federal programs and opportunities are examined:

- Federal Emergency Management Agency (FEMA) /Homeland Security (HMT is collected by Customs, part of HS)
- Potential for related programs such as USDA and Military
- Federal Highway Administration (FHWA) Surface Transportation Program (STP)
  - Highway Safety Improvement Program
  - CMAQ
- Federal Railroad Administration
  - Railroad Rehabilitation & Improvement Financing
  - Capital Grants for Rail Line Relocation Projects
- Transportation Infrastructure Finance and Innovation Act (TIFIA)
- Grant Anticipation Revenue Vehicles (GARVEE) Bonds
- Tax-Exempt Financing of Highway Projects and Rail-Truck Transfer Facilities

For each of the programs the legislation is briefly discussed, the funding levels are outlined, and the programs are rated with respect to assisting port investments depending on program eligibility and funding criteria.

As this technical memorandum is finalized, in early 2012, the reauthorization of the multiyear Surface Transportation Bill is being drafted by Congress. No specifics are known except that a number of surface transportation programs are being consolidated. As a result, in some cases, the following discussion provides an overview of the program type rather than the program specifics. This is provided so that readers can follow up and examine specifics once the bill is drafted.

### 2.1 FEMA/Homeland Security: Port Security Grant Program (PSGP)

The Program. PSGP provides funding for transportation infrastructure security activities to implement Area Maritime Transportation Security Plans and facility security plans among port authorities, facility operators, and state and local government agencies required to provide port security services. The purpose of the FY 2011 PSGP is to support increased port-wide risk management; enhanced domain awareness; training and exercises; expansion of port recovery and resiliency capabilities; and further capabilities to prevent, detect, respond to, and recover from attacks involving improvised explosive devices (IEDs) and other non-conventional weapons. Port applicants are sorted into three groups, depending on their assessed risk. The seven members of Group 1 have the highest assessed risk; the 48 members of Group 2 have the next level of risk; all remaining ports are in Group III.

Funding Level. Total Funding Available in FY 2011: \$235,029,000. Annual funding for this program is determined as part of the US Department of Defense Appropriations process. The most recent funding allocation is found in Department of Defense and Full-Year Continuing Appropriations Act, 2011 (Public Law 112-10).

Status. The general security issues related to rising cargo volumes, exposure to hurricanes, concerns about climate change's impact on coastal facilities, and the North Carolina ports' status as Strategic Military Ports are all issues that are eligible for this program.

## **2.2 Freight Rail Security Grant Program (FRSGP)**

The Program. The program provides funding to freight railroad carriers, owners and offerors of railroad cars, and owners of rail bridges to protect critical surface transportation infrastructure from acts of terrorism and to increase the resilience of the freight rail system. The funding priorities for the FY 2011 FRSGP reflect the Department's overall investment strategy as well as requirements of the 9/11 Act. The key goals of the FY 2011 FRSGP are to establish the basis for capital security improvements by funding vulnerability assessments and security plans, training to frontline personnel, security related exercises, global positioning system (GPS) tracking on railroad cars, and infrastructure hardening on rail bridges.

Funding Level. Total Funding Available in FY 2011: \$7,745,544. Funds were allocated competitively based on their ability to deliver protection to rail bridges and other high-risk assets, provide counter-terrorism training, or develop security plans and vulnerability assessments. There is a 75 percent (75%) federal and 25 percent (25%) grantee cost match (cash- or in-kind) requirement. Vulnerability assessments and security plans were exempt from this cost match requirement.

Status. Rail service from the port runs through a number of North Carolina communities. Vulnerability assessments and planning can help to develop coordination and collaboration with the surrounding communities.

## **2.3 Highway Safety Improvement Program (HSIP)**

(formerly Section 130 (Highway-Railroad Grade Crossings Program) and Section 152 Hazard Elimination Program)

The Program. The Rail-Highway Crossings Program was established in 1913 through the Highway Safety Act, later codified as Section 130 in Title 23 of the United States Code. Section 152 Hazard Elimination Program is similarly codified in Title 23. Section 130 provides Federal money to states to fund projects aimed at reducing the incidence of accidents, injuries, and fatalities at railroad crossings.

H.R. 3 amended these programs in several important ways. The Section 130 program is maintained; it is funded as an annual set-aside of Section 148 funds (p. 88, H.R. 3). The Hazard Elimination Program under Section 152 is eliminated and is incorporated into 23 U.S.C. 148, the new HSIP. All states must develop a strategic highway safety plan by October 1, 2007. If a state certifies that it has met all of its needs for installation of protective devices at railway-highway crossings, the State may use funds set-aside for section 130 Railway-Highway Crossings to pay for other safety projects eligible under the HSIP (p. 864, H.R. 3).

Funding Levels. Current level TBD in current reauthorization. Last authorization was \$220,000,000 of Section 148 funds that set aside in each fiscal year for Section 130 program activities across the U.S. Of these funds, ½ of the funds will be apportioned based on a formula set forth in Section 104(b)(3)(A) and ½ of the funds are apportioned based on each State's percentage of railway-highway crossings. The minimum apportionment is one half of one percent (p. 88, H.R. 3). The Federal share of a project's cost is set at 90 percent.

The following amounts are authorized to be appropriated for the HSIP under Section 148:

- \$1,235,810,000 for fiscal year 2006
- \$1,255,709,322 for fiscal year 2007
- \$1,275,929,067 for fiscal year 2008
- \$1,296,474,396 for fiscal year 2009

Status: Applicable. HSIP funding is specifically available for grade crossing improvements and removal of high-risk at grade crossings. Although the program's status is currently part of ongoing Congressional Reauthorization, safety is projected to be one of the programs carried forward in the new bill.

## **2.4 Railroad Rehabilitation and Improvement Financing Program (RRIF)**

The Program. TEA-21 (Section 7203) authorized a new Railroad Rehabilitation and Improvement Financing program to provide credit assistance, in the form of direct loans and loan guarantees for railroad capital improvements. The USDOT may provide direct loans and loan guarantees to state and local governments, government sponsored authorities and corporations, railroads, and joint ventures that include at least one railroad. Direct loans and loan guarantees are to be used to acquire, improve, develop or rehabilitate intermodal or rail equipment or facilities, including track, bridges, yards, buildings and shops.

The Program has not been well used to date as RRIF loans have taken a long time to process and there have been significant obstacles to participation. SAFETEA-LU amends the program to increase participation. "Congress seeks to encourage, not discourage, major rail investment in the U.S." (p. 1094, Conference Report on H.R. 3).

Key modifications include the following:

- There is a time limit of 90 days for the Secretary's approval or disapproval of an application.
- The Secretary may not require an applicant for a direct loan or loan guarantee to provide collateral.
- Conference substitute language indicates that the bill retains Senate language overruling both the memorandum and DOT regulations requiring rejection by a private lender before an applicant may obtain a RRIF loan.
- The Secretary is required to give priority to projects that have a national impact. "RRIF should be used to help improve service and capacity in the national rail system wherever feasible." (p. 1095, Conference Report on H.R. 3).

Funding Levels. TBD in the new reauthorization bill. This program may be expanded. Prior reauthorization was raised to \$35 billion.

Status: Applicable, much more likely given modifications. Applies to projects that may alleviate a choke point in the landside network serving the port.

## 2.5 STP (Surface Transportation Program) for Rail Purposes

The Program. The Surface Transportation Program (STP) provides flexible funding that may be used by states and localities for projects on any Federal-aid highway (includes the NHS), bridge projects on any public road, and projects on rural minor collectors.

Funding Levels. TBD in current reauthorization. The Federal government, for fiscal years 2005 through 2009, has placed over \$32 billion in the STP and then distributes those funds to each State's Department of Transportation based on a formula.

### STP FUNDS (in millions)

2005	2006	2007	2008	2009
6,860	6,270	6,370	6,473	6,577

Status: Applicable. The North Carolina landside improvements would be eligible for limited STP funding to fund requisite construction on highway structures in the corridor such as those a grade crossings/separations.

## 2.6 Congestion Mitigation and Air Quality Improvement Program

The Program. The Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds are provided to state DOTs, MPOs and transit agencies to invest in projects that reduce transportation-related pollutants.

The CMAQ provisions recognize ozone and carbon monoxide (CO) as the primary transportation pollutants. CMAQ funds can be used on projects to improve the air quality within or in close proximity to nonattainment or maintenance areas. The Federal government issues CMAQ funds to each State based on population and the severity of the area's air quality problems. The State is then responsible for allocating the money to various projects throughout the year. Freight projects are eligible for CMAQ funding if they show an air quality benefit.

For those States that do not have classified non-attainment areas, they may use their CMAQ funding to aid programs that qualify for their STP. Generally speaking, the CMAQ program was created to provide States with flexibility in which programs receive funding from this source.

Funding Levels. TBD in the current reauthorization, the program is expected to be carried forward. In the last reauthorization, the Federal government has appropriated over \$8.6 billion dollars in CMAQ funds between 2005 and 2009.

Status: Applicable, but limited impact. CMAQ funding is a candidate-funding source for port projects, particularly those where truck traffic is projected to be highly congested in the future. The limiting factor, however, is that relatively few counties in the State are in non-attainment.

## 2.7 Transportation Infrastructure Finance and Innovation Act (TIFIA)

The Program. The Transportation Infrastructure Finance and Innovation Act (TIFIA) established a Federal credit program for major transportation investments. As TIFIA is a credit program, not a grant program, projects must be capable of generating their own revenue streams through user charges or other dedicated funding sources in order to use this program.

The TIFIA credit program provides for the following three types of financial assistance:

1. Direct Federal loans to project sponsors;



2. Loan guarantees provide full-faith-and-credit guarantees by the Federal government to institutional investors; and
3. Lines of credit represent standby secondary sources of funding that may be drawn upon to supplement project revenues.

Eligible project sponsors include state departments of transportation, local governments, public private partnerships, or any legal entity undertaking the project and authorized by the Secretary. The Reauthorization Bill expanded the definition of freight-related projects eligible for TIFIA assistance to allow private rail facilities that serve a public benefit for highway users. Public freight rail facilities, intermodal freight transfer facilities, and projects providing access to freight rail or intermodal freight transfer facilities are also eligible.

TIFIA assistance improves access to capital markets, offers flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments. The project must be reasonably anticipated to total at least \$50 million. For ITS projects, the minimum cost is \$15 million. Project financing may be repaid in whole or in part from toll, user fees or other dedicated revenues; other dedicated revenues include: tolls, user fees, special assessments, tax increment financing and any portion of a tax or fee that produces revenues that are pledged for the purpose of retiring project debt.

Funding Levels. SAFETEA-LU authorized a budget of \$122 million in each fiscal year between 2005 and 2009 for a total of \$610 million. This budget translates into lending authority of about \$2 billion per year. As of July 2004, over \$3.5 billion in TIFIA credit assistance has been approved for 11 projects with a construction value of \$15.4 billion. The TIFIA program is likely to be expanded in the next reauthorization.

Status: Applicable. TIFIA is a candidate financing source for port projects that ease landside bottlenecks in the network serving a port. There is precedent for using TIFIA for rail projects. The Reno Transportation Rail Access Corridor (included in case studies) received TIFIA funding support. The Alameda Corridor project was the predecessor and model for TIFIA, bringing together several funding sources from federal, state, and port programs, along with a user fee applied to shipments either using, or capable of using the corridor

## **2.8 Grant Anticipation Revenue Vehicles (GARVEE) Bond Program**

The Program. GARVEE bonds are debt financing instruments that permit an issuer to pledge future Federal highway funds to repay investors. Prior to 1995, states could use their Federal highway grants to repay only the principal component of debt service on most projects. Section 311 of the National Highway System Designation Act of 1995 changed the rules by conferring Federal-aid eligibility on a wide array of bond-related costs. Specifically, a state may use future obligations of Federal-aid funds to retire principal, interest payments, issuance and insurance costs, and other expenses incidental to the sale of an eligible debt financing instrument.

To be eligible, the project must be eligible for Federal-aid funding under one or more program categories as set forth in Title 23, section 115 such as NHS or STP. Reimbursements of debt-related costs must be made with obligations of eligible categories of Federal-aid funds. GARVEEs can be issued by a state, a political subdivision of a state, or a public authority.

GARVEE financing mechanism generates up-front capital for major highway projects at tax-exempt rates and enables a state to construct a project sooner than it would using traditional

pay-as-you-go funding sources. By accelerating projects, costs are lower due to inflation savings and the public realizes safety and economic benefits.

As GARVEE instruments are secured against future federal monies, they carry appropriation risk and can carry authorization risk.

**Funding Levels.** Amount of funding varies with program use. FHWA considers GARVEEs to be debt instruments backed directly by federal-aid funds. Other forms of indebtedness where the debt is repaid indirectly by federal project reimbursements are very similar to GARVEEs, but do not appear in FHWA tallies of GARVEE issuances. North Carolina has experience using this program. This program is expected to carry forward in the next reauthorization bill.

**Status:** Applicable. GARVEE bonds are a financing vehicle and not a new revenue source. GARVEE bonds primarily help by adding flexibility to a financing plan and by accelerating the construction process. The primary challenge with respect to the port projects is to first find a federal funding program that is applicable and can be secured against.

## **2.9 Capital Grants for Rail Line Relocation Projects (SEC. 9002, H.R. 3, p. 770)**

**The Program.** This is a new program created in SAFETEA-LU. It is a grant program to provide capital assistance for local rail line relocation and improvement projects. Eligible projects include those that improve safety, motor vehicle traffic flow, community quality of life or foster economic development. Selection criteria include the capability of the State to fund the rail line relocation without Federal grant funding, equitable treatment of various regions of the U.S., the effects of the proposed rail line on the region to which it will be relocated, the effects of the relocated rail line on freight and passenger rail operations. Two or more states may combine any part of the amounts provided through grants for a project under this section if the project will benefit each state and it is not a violation of the states' laws. The Secretary shall require a state to submit a description of the anticipated public and private benefits associated with the rail line relocation and will consider the feasibility of seeking financial contributions or commitments from private entities involved with the project in proportion to the expected benefits.

**Funding Levels.** TBD pending reauthorization. In the past, annual appropriations are \$350 million for the period from fiscal year 2006 to fiscal year 2009 for a total of \$1.4 billion. Allocation requirements reduce the possible support for any single project. At least half of all grant funds awarded under this program in each fiscal year will have a maximum value of \$20 million. Thus, the maximum amount that a project could receive in any one year is \$175 million and it would likely be less as there will be many requests for funding.

A state or other non-Federal entity must pay at least 10 percent of the project costs. In-kind contributions count against the non-Federal share and may include real or tangible personal property or the services of employees of the State or other non-Federal entity.

**Status:** Applicable.

## **2.10 Tax-Exempt Financing of Highway Projects and Rail-Truck Transfer Facilities (H.R. 3, p. 1143)**

**The Program.** The interest on state and local bond issues is typically excluded from Federal income taxation. By contrast, the interest on state or local bonds issued to finance the activities of entities other than state and local governments (including the Federal government) is typically



taxed, unless the bond was issued for a particular purpose that is eligible for tax-exemption. Among the current exempt purposes for these so-called Private Activity Bonds are bonds issued for certain transportation facilities (airports, ports, mass commuting and high-speed intercity rail facilities). SAFETEA-LU creates a new type of exempt facility—the “qualified highway or surface freight transfer facility.” This new exempt facility includes (1) a surface transportation project receiving Title 23 funds; (2) a project for an international bridge or tunnel which receives Title 23 funds and for which an international entity authorized under Federal or State law is responsible; and (3) facilities for the transfer of freight from truck to rail or from rail to truck (including facilities for temporary storage during such transfers) state receives Title 23 or Title 49 funding.

**Funding Levels.** TBD pending reauthorization. Past funding levels \$15 billion of issuance authority between 2005 and 2015. There are no caps on the annual amount that may be issued.

**Status:** Applicable. Government must issue the bond, but this program largely aids private parties to financially support the project reducing the cost of financing private parties’ share of freight intermodal projects.

## **2.11 Freight Intermodal Distribution Pilot Grant Program (SEC. 1306, H.R. 3, p. 77)**

**The Program.** This was a new pilot program in the last reauthorization to make grants to states to facilitate and support intermodal freight transportation initiatives at the state and local levels to relieve congestion and improve safety. Grants should provide capital funding to address infrastructure and freight distribution needs at inland ports and intermodal freight facilities.

**Funding Levels:** TBD. In the past, \$6 million in each fiscal year from 2005 to 2009 for a total of \$30 million. Six projects are named in the legislation and will receive \$5 million each for a total designated project cost of \$30 million.

**Status:** Not applicable at this time as the projects for the pilot program are already designated. Would be applicable if the pilot program were extended to all states in this round of reauthorization.

## **2.12 Programs for Specific Complementary Uses (e.g. agriculture, military)**

A final option for consideration is that many of the market scenarios require industry specific equipment. As individual projects develop, there may be opportunities to apply funds from the US Department of Agriculture such as those for rural development or for funds from the military.



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### 3 STATE AND LOCAL FUNDING OPTIONS

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This section documents state and local funding and financing options and identifies possible applications for port improvements. While the North Carolina Highway Trust Fund<sup>1</sup> is the state's primary source of revenue for transportation infrastructure, alternative sources of funding and financing are discussed below.

#### 3.1 State Infrastructure Banks

SAFETEA-LU expands the State Infrastructure Bank (SIB) pilot program to all states. Two or more states can enter into a cooperative agreement with the Secretary to establish a multi-state SIB (p. 875, H.R. 3). SIBs may be used for rail projects. SIB loans are revolving loans that are capitalized by federal monies.

#### 3.2 Tax Exemptions

North Carolina has the option of offering tax incentives to the railroads (or other project beneficiaries that pay taxes) that in turn could support the project. The revenue yield from this type of arrangement depends on tax bill paid by the railroad. An example of this type of arrangement is described in AASHTO's Freight-Rail Bottom Line Report as quoted below.

As the railroad owns and maintains its own right-of-way, most of the railroad's tax burden is fixed, based on assets, rather than based on traffic. In the case of CSX, about 31 percent of the corporation's tax bill (\$20M, 1999 figure) goes to the State of New York even though only 7 percent of CSX's track is located in New York. The New York State Legislature passed a bill (was awaiting Governor's signature when report was written) that would reduce the tax bill for Class I railroads by about 45 percent. In return, CSX would invest \$26 million in NY infrastructure projects—upgrades for both freight and passenger service. (p. 97)

#### 3.3 Dedicated State Funding Sources

Individual states have set in place capital funding enabling legislation to support maritime development, port operation, or both. Below is a summary of funding initiatives that have been implemented in the Gulf states.<sup>2</sup>

Alabama passed a constitutional amendment (no. 666) in 2000 that designated \$100 million to the Alabama State Ports Authority. This amount was allocated to include \$20 million for general cargo and container yard improvements and \$80 million for the Choctaw Point container terminal. Then, in 2007, Amendment 796 authorized bonding authority with an increase from \$350 million to \$750 million, in part to attract a steel plant investment.

Florida created in 1990 the FSTED program – Florida Seaport Transportation and Economic Development program. Ports can apply for state matching funds (50 percent or 75 percent for dredging with intermodal benefits) not to exceed \$7 million per year or \$30 million over five

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<sup>1</sup> NC HTF revenues are generated from the state motor vehicles tax, 3 percent use tax on the sale of motor vehicles, DMV titles and other fees, and interest income

<sup>2</sup> Kruse, Texas Transportation Institute study (2009).

years for projects that are consistent with port, local, regional, and state level plans and missions. There are 14 deep water ports in Florida that compete for these dollars. A minimum of \$8 million per year is transferred from the State Transportation Trust Fund to support the program and there was a one-time \$50 million appropriation in 2007 to support these expenditures. FSTED has also supported annual expenditures by FDOT of \$350,000 for three years by specifically to acquire trade data.

Louisiana created the Port Construction and Development Priority Program (PCDPP) by Act 452. Similar to a State Transportation Improvement Program (STIP), projects can apply, are scored, ranked, and then funded as possible. In the mid-2000's the program was funded at \$20 million per year. The main eligibility criteria were technical and economic feasibility of the project.

Mississippi relies primarily on the Port Revitalization Revolving Loan Fund to promote commerce and economic growth. Eligible projects can apply for loans that are less than or equal to \$750,000 per project with a loan term of 10 years at three percent annual interest. Projects are generally infrastructure based with construction, expansion/ improvement, or rehabilitation as the goal.

Texas has Port Access Account, similar to FSTED, but as of 2009 it had not yet been funded.

### **3.4 Special Development District**

Port operations and trade activities create development opportunities. The creation of a special development district in either or both port locations would generate a source of revenue for the project and permit the project to capture some of the value that it creates.

### **3.5 Local Option Fuel, Sales or Property Tax**

Counties and cities have limited financial resources for making capital improvements, but still may be able to contribute modestly to the Project's funding. North Carolina allows counties (but not cities) to levy four local option sales tax (LOST) upon the approval of public referendum. The four LOST are the Article 39 one-cent tax, the Article 40 half-cent tax, the Article 42 half-cent tax, and the Article 44 half-cent tax. The 100 North Carolina counties now levy the full amount -- 2.5 percent. As the state levies a 4.5 % sales tax, the total sales tax rate is now 7 % statewide (except in Mecklenburg County which levies an additional 0.5 percent LOST for mass transit only). The local option fuel tax has a transportation nexus and the advantage that a portion of the tax burden can be exported to tourists and visitors to the coastal counties. As other transportation needs are ongoing in these counties, one possibility would be to dedicate a portion of the tax to the ports for a period of time. An alternative option would be to raise the tax and dedicate all or part of the additional tax to the ports. Depending on the size of the increase, the additional revenues could be split among other needs in the counties such as education, in order to gain broader support for the project. Legislative action would be required to raise the tax. North Carolina's fuel tax is a combination of a fixed and variable rate. The fixed portion is 17.5 cents; the remainder is variable -- indexed to 7% of the wholesale rate of fuel with a minimum yield of 3.5 cents. There is similarly a ceiling on the top rate—the combined total fixed and variable rate is 35.2 cents. Given that fuel prices are expected to hold at a rate that maxes out the top variable rate, North Carolina's fuel taxes are effectively flat going forward.

## **4 OPPORTUNITIES FOR PRIVATE SECTOR INVESTMENT**

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This section describes options for obtaining private sector funding for the port projects.

### **4.1 Direct Investment by Railroads**

There are three considerations when negotiating funding shares for port-related improvements: ability to contribute, receipt of benefits in return for contribution, and willingness to pay.

In terms of ability to contribute, both of the Class I railroads that operate in the state have large capital investment budgets and have partnered nationally with public sponsors to secure federal funding, such as for Transportation Investment Generating Economic Recovery (TIGER) funding. In terms of willingness to pay, this is a matter of negotiation rather than analysis. There may be instances where a project yields operational savings to the railroad; in these instances it may be possible for the railroad to participate.

### **4.2 User Fees**

As the port is owned publicly, the fees can be charged to the users. These fees are used to cover the cost of operating and maintaining the facility, with the balance applied to repaying construction debt. An advantage of the user fee approach is that port users (or railroads) can transfer at least some of this cost to shippers, who are also beneficiaries of the improved rail service afforded by the relocated line. User charges are applied in the Alameda Corridor and the Shellpot Bridge Project.

### **4.3 Sale/Leaseback of Rail Assets**

The railroads own numerous assets within the state. Some of these assets may become obsolete if rail lines are relocated. Aside from the abandoned right-of-way, there may be offices or other parcels that would no longer be used. These assets could be sold with the understanding that some percentage of the proceeds would be applied to port and freight improvements that benefit the railroad. The sale of assets need not wait until the new project is built. The railroad could sell the asset and lease back the right to use it, providing a revenue stream to the state.

### **4.4 Public-Private Partnerships**

Public-Private Partnerships (P3s) have gained acceptance over the past decade as another tool in the project development and delivery toolbox. North Carolina allows P3s under certain circumstances. For example, SB 243 Public-Private Partnerships for Schools is a 2011 bill to extend the sunset on the law allowing capital lease financing for public schools. The North Carolina Turnpike Authority also has the ability to enter into P3 agreements. Additional applications are possible; HB 320/SB 278 extends legislative study committee examining use of public private partnerships for social and utility infrastructure (bill is in committee). The Department of Transportation does not currently have authorization to enter into P3 agreements, limiting this approach for port financing in the near term. North Carolina's law authorizing Department of Transportation-administered P3 projects expired on December 31, 2011. The North Carolina House created an 11-member Select Committee on Public Private Partnerships In September 2011. The committee is examining P3-related issues, including the

appropriate oversight authority and regulatory framework, and will submit a final report before the start of North Carolina's 2013 legislative session.

In implementing a P3, framing the concession agreement is essential to having a successful project. A concern for the public and for public agencies, for example, is that the public authority or agency will lose control over pricing policy once the asset is operated by a private concessionaire. This can be prevented by including an escalation formula in the agreement. For example, in Indiana, the formula set by the Governor is the greater of 4.5 percent, CPI, or GDP. For the Pennsylvania Turnpike, the proposed toll escalation formula is the greater of 2.5 percent or CPI.

The concession agreement can cover details of how the facility will be operated as well. For example it can include Operating Standards that describe minimum levels of service, minimum asset condition, and intervention times for snow removal, accidents and other events. The public agency can retain the ability to resume full control in the event of default.

Public-private partnerships can offer project sponsors several benefits when administered carefully. Key potential benefits are summarized below.

#### **4.4.1 Value for Money**

The P3 project provides value to facility users and taxpayers. This determination is typically evaluated using a public sector comparator as a benchmark. A Value for Money analysis will assess whether P3 delivery offers tangible benefits to the public. Value for Money is calculated as the net present value of project costs as delivered through P3 as compared to an equivalent quality project delivered through traditional public processes. Quantitative measures included in the Value for Money assessment may include design, construction, finance, operation and maintenance costs as well as value of earlier operation that may be realized through P3 delivery.

#### **4.4.2 Risk Transfer**

The P3 arrangement can be structured to transfer risk from the public sector to the private sector. Risks include revenue shortfall, construction cost overruns, greater than expected growth in O&M costs. This risk transfer can be accomplished because the private sector has the flexibility and reactivity to manage complex risks. Also, the multiparty transaction (banks, concessionaire, public sponsor) all work to identify, quantify and mitigate risk—ensuring a disciplined financial risk approach and a comprehensive review.

#### **4.4.3 Timely Delivery of Projects**

Data from the UK National Audit Office found that a higher percentage of privately financed projects were delivered early or on-time at the agreed upon price, compared with pure public projects.

#### **4.4.4 Preservation of Public Borrowing Capacity**

By privately financing a project, the public sector can leverage its finite bonding capacity and apply this bonding capacity to other projects.



## 5 CASE STUDIES

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Several case studies are outlined below to illustrate the various funding sources and financing mechanisms that are available for port/freight/rail transportation projects. Direct support from the railroads and states is common. The most commonly used method of financing was the issuance of general obligation and revenue bonds. Bonds are a desirable financing mechanism, but require a strong, reliable source of financing to secure the debt and receive favorable terms and ratings. Other financing mechanisms included were Federal grants and program funding. Each of these financing mechanisms is case-by-case sensitive, and should be thoroughly examined as a candidate funding source.

An essential step in building momentum and broad-based support for port improvements is demonstrating how the project can be funded and relating those funding sources to the Project's beneficiaries. A credible, multiparty approach to funding the project provides distinct advantages:

- A workable funding plan establishes the project as a realistic and achievable means to address the state's transportation, community and economic development objectives and permits serious and thoughtful engagement by stakeholders such as the railroads.
- The inclusion of multiple contributors demonstrates commitment and belief in the Project's merits by multiple parties; makes the project more robust from a financial perspective; and reduces reliance on federal sources, advancing the Project in programs where funds are competitively awarded.

### 5.1 Case Studies of Public-Private Partnerships

The following two examples outline P3 arrangements in the context of port projects.

#### 5.1.1 Port of Miami Tunnel

The project will construct a tunnel connection, widen the MacArthur Causeway and provide access improvements in the Port of Miami. The project is not tolled. It is procured by the Florida Department of Transportation as a Design, Build, Finance, Maintain, and Operate project offering an availability payment over 35 years. An availability payment takes the place of a toll, and is made by a public project sponsor (a state DOT or authority, for example) based on particular project milestones or facility performance standards. Deductions are made if the facility is not operational (available) for a time. The winning concessionaire is responsible for all routine and heavy maintenance and has performance metrics to meet, as well as at handback of the asset to DOT. FDOT received three bids for this project. One was 94 percent of the engineer's estimate (the grantor's estimate/public sector comparator). The second was 56 percent of the engineer's estimate and the third was 49 percent of the estimate. The approach yielded significant cost savings and transferred risk to the private sector.

#### 5.1.2 Maryland Port Authority Seagirt Terminal

The transaction allows Ports America to lease the Seagirt Terminal at the Port of Baltimore. It is a 50 year lease with no option for renewal. The Seagirt facility is a 183-acre container facility. The Canton property is an adjacent breakbulk facility of 18 acres. The two main customers are Evergreen and MSC. Ports America provided the Port of Baltimore with an upfront payment of

\$100 million and a commitment to build an additional berth at \$105 million. The firm also pays an annual rent of \$3.2 million and there is a variable assessment of \$15/per container over 500,000.

On the public side, the Maryland Economic Development Corporation issued \$170 million in bonds to pay for the transfer of land to the port and \$89 million in bonds to lend to Ports America to help construct the berth. Ports America is providing a \$75 million match. Both bonds are secured by a lien on Ports America's Concession, which requires that all container business at the Port of Baltimore flow through the Ports America terminal.

## **5.2 Case Studies of Traditional Funding and Financing Approaches**

The following case studies are presented because they are representative of landside freight projects throughout the country, and/or because their funding sources and financing mechanisms used are strategies that may be relevant to the port improvements. Taken as a group, they illustrate the variety of innovative approaches that are being pursued across the US to address freight problems. Each of the case studies presented are outlined in terms of Project Description, Capital Cost, Funding Sources, Financing Mechanisms, and Institutional Arrangements.

### **5.2.1 The Alameda Corridor**

#### **Project Description<sup>3</sup>**

The \$2.4 billion Alameda Corridor project provides the efficient and cost effective transportation capacity necessary for the United States to capitalize on the economic expansion in the Pacific Rim. The Alameda Corridor dramatically improved railroad and highway access to the Ports of Los Angeles and Long Beach (The San Pedro Bay Ports). The project travels along Alameda Street and consolidates over 90 miles of rail with 200 at-grade roadway crossing into a single 20-mile high-capacity and fully grade-separated facility linking the San Pedro Bay Ports with the national rail system. It also widens and improves the local truck route paralleling the rail facility to expedite port truck traffic.

#### **Capital Cost**

\$2.5 billion

#### **Funding Sources**

- \$400 million loan from the US Department of Transportation
- \$394 million contribution from the Ports of Los Angeles and Long Beach
- \$347 million administered by the Los Angeles County Metropolitan Transportation Authority (LACMTA)
- \$160 million in other State, Federal, and interest income sources
- \$1.2 billion in bond proceeds

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<sup>3</sup> FHWA Innovative Finance web site.



## **Financing Mechanisms**

The \$400 million loan from the USDOT was generated through the Direct Loan Financing Program under the Omnibus Consolidated Appropriations for Fiscal Year 1997. Minor adjustments were made to fulfill all requirements of section 505. The source of payment for the loans is the revenue generated by port wharfage surcharges and the rail corridor use fee. The revenue base has upside risk, since volume builds as container throughput increases thereby increasing surcharges and corridor use fees. The ports acquired the right-of-way with cash payment.

The \$394 million in funding from the ports were used to acquire the railroad right-of-way with cash payment. The repayment schedule is tied to volume, and is not considered a priority to debt service. Originally the grants were not expected to be repaid, but further negotiations stipulated that repayment be through yearly excess revenues after the debt is paid off.

All \$347 million administered by LACMTA is from grant funds that stem from federal sources such as STP, ISTEA, and some state involvement. Nearly \$208 million came directly from ISTEA.

The repayment schedule is through a revenue stream from corridor use. Rail cars are charged per container. The money generated from this fee will be used to pay back the bonds that were originally issued to finance the project.

## **Institutional Arrangements**

The Southern California Association of Governments formed the Alameda corridor Task Force in 1985. The group worked on institutional arrangements, funding and project development. In 1989, the San Pedro Ports provided seed funding for design and environmental studies. They also led the creation of an agency to oversee the project. Originally known as the Consolidated Transportation Corridor Joint Powers Authority, this group became the Alameda Corridor Transportation Authority (ACTA). ACTA members include: two representatives from each of the San Pedro Bay Ports, one representative each from the Los Angeles and Long Beach City Councils, and a delegate from the Los Angeles County MTA. Corridor cities were permitted detailed review and approval of changes to each city's facilities.

### **5.2.2 Chicago Region Environmental and Transportation Efficiency Program (CREATE)**

#### **Project Description<sup>4</sup>**

The Chicago Region Environmental and Transportation Efficiency Program (CREATE) is a package of capital investments in the Chicago area that will increase the efficiency of the region's rail infrastructure and reduce train delays and vehicle congestion throughout the Chicago area. The capital improvements will focus on grade crossing improvements and extensive upgrades of tracks, switches and signaling systems. Select rail lines along the lakefront will be eliminated as rail operations are reconfigured in the region. The vacated land will be redeveloped for public uses. Improvements will require six to 10 years to complete, depending on the availability of funding.

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<sup>4</sup> Chicago Create web site. [www.createprogram.ort/faq.aspx](http://www.createprogram.ort/faq.aspx)

### **Capital Cost**

\$1.5 billion

### **Funding Sources**

The six railroad partners will provide \$212 million, which is the amount equal to the potential economic benefits estimated for the rail industry. The remaining funds will come from federal, state and local governments over time. The total amount of funding required for this project has not yet been secured.

### **Financing Mechanisms**

None yet identified.

### **Institutional Arrangements**

Mayor Daley of Chicago requested the help of the Surface Transportation Board to convene a task force to address the rail network problem in the Chicago area. The CREATE project grew out of this task force. CREATE is supported by a public-private partnership between the State of Illinois, the City of Chicago, Metra and the six railroads with operations in the area. They are: BNSF Railway, Canadian Pacific Railway, CN, CSX Transportation, Norfolk Southern Corporation and Union Pacific Railroad.

## **5.2.3 Reno Transportation Rail Access Corridor (ReTRAC)**

### **Project Description**

The Reno Transportation Rail Access Corridor (ReTRAC) depressed the railroad tracks that run through downtown Reno between West Second and Sutro Streets. The project involved construction of a below-grade trench with two mainline tracks and replacement of 10 grade crossings with bridges. The Project will increase safety, reduce traffic congestion and air pollution from idling vehicles and speed up rail freight operations. The project was sponsored by the City of Reno, with cooperation from Union Pacific. The project permitted UP to increase train lengths to 8,000 feet and transport double-stacked containers, eventually increasing freight capacity when the rest of the corridor is improved. The City of Reno will own Union Pacific's current right-of-way along the 2.3 mile corridor.

### **Capital Cost**

Total project cost was \$280 million for the 2.25 mile long trench, two mainline tracks, an access road adjacent to the tracks, and replacement of the grade crossings with bridges. The \$280 million total cost combines \$264 million in construction cost with \$18 million in bonding costs.

### **Funding Sources**

Funding sources included: a one-eighth cent countywide sales tax, a one percent hotel tax on downtown properties, lease income on 77 properties transferred from the UP railroad to the City of Reno, revenues from a downtown assessment district. A 1998 settlement negotiated with the UP railroad was valued at over \$58 million in 1998. The settlement included all property owned

by the UP in the City of Reno equal to 77 parcels, generating \$1.1 million per year in lease income, air rights over the trench, the trench right-of-way itself, and \$17 million in track ballast and ties. Overall, the UP provides 12 percent of the funding, the sales and room tax accounts for 71 percent, the assessment district accounts for eight percent and TEA-21 grants passed through the state account for nine percent.

### **Financing Mechanisms**

The project received a \$50.5 million TIFIA direct loan agreement and senior lien bonds (approx \$114 million). These were both secured by the county sales tax and City of Reno Hotel room taxes. Two additional loans included \$17 million to be repaid from tax revenues from a special assessment district and \$5 million to be repaid from lease income from UP properties. Overall, municipal bonds provide 41 percent of the financing, a federal loan provides 26 percent and the balance is pay-as-you go.

### **Institutional Arrangements**

The project was triggered by the merger of the UP and Southern Pacific. With the merger and the Port of Oakland Expansion, it was anticipated that the number of daily trains running through Reno would increase from 12 to 40. Reno filed several lawsuits to stop the merger. Appealed to the STB, the result did not favor the City. The City of Reno negotiated settlement with UP.

## **5.2.4 Mid-Atlantic Rail Operations Study (MAROps)**

### **Project Description<sup>5</sup>**

The Mid-Atlantic Rail Operations Study (MAROps) is an on-going initiative to improve the region's rail network. The MAROps project is being implemented in stages. The first stage comprised a study to assess the performance of the region's network and identify strategies that would better utilize existing rail assets and formulate a program of investments to improve the network. The study identified 71 projects to reduce or eliminate choke points. The second stage examined various approaches to organizing and financing the rail improvements. Based on this initial work, the Mid-Atlantic states and the railroads agreed to advance a regional rail improvement program. The program builds on the MAROps work, but is extending the analysis to included results of the Northeast Rail Operations Study (NEROps), and will reflect the results of subsequent MAROps work. The next stage of the MAROps study quantified the benefits of the regional strategy formulated in the first phase of the MAROps work.

### **Capital Cost**

The initial order-of-magnitude estimate of the cost for the 71 projects identified in the MAROps study was \$6.2 billion over 20 years. The projects were prioritized into three phases, a near-term program costing \$2.4 billion over five years, a medium-term program costing \$1.9 billion over the subsequent five years and a long-term program costing \$1.9 billion to be implemented between years 10 and 20.

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<sup>5</sup> Mid-Atlantic Rail Operations Study (MAROps) reports available on I-95 Coalition web site.

## **Funding Sources**

A detailed funding plan has not yet been developed. The project, however has determined that a private-public partnership is needed to fund the program. The following options have been identified as the best initial options to pursue:

- Direct funding by railroads, state and local government and Congressional earmarks
- Existing federal rail assistance programs
- CMAQ or other formula funds
- Highway and rail safety programs
- Federal tax credit bond programs
- Toll or user charges
- Sale of freight assets
- State-based approaches such as property tax relief

## **Financing Mechanisms**

Not yet determined.

## **Institutional Arrangements**

The MAROps Study is a cooperative initiative of the I-95 Corridor Coalition, the five Mid-Atlantic states of Delaware, Maryland, New Jersey, Pennsylvania and Virginia, and three railroads comprised of Amtrak, CSX Transportation and Norfolk Southern. The group has committed to addressing the region's rail problems in a system-wide, regional approach recognizing that choke points in one state affect service performance in the other states and that the costs, benefits and risks of network investments are not distributed neatly within state boundaries.

### **5.2.5 Shellpot Bridge Project**

#### **Project Description<sup>6</sup>**

The 115 year old Shellpot Bridge had been taken out of service in 1995 by Conrail. In June 1999, Norfolk Southern took over Conrail's Delaware assets. The State of Delaware wanted to restore the bridge to service to support both freight and intercity passenger rail service. Doing so would improve passenger and freight capacity between Wilmington and Dover, improve access to the Port of Wilmington and improve service for the region's industrial shippers. The bridge has been reopened. Norfolk Southern reports new business due to line opening. There is an upward trend in car counts.

#### **Capital Cost**

\$13 million.

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<sup>6</sup> AASHTO Freight Bottom Line Report, 2003, p. 107. Also presentation by Michael Kirkpatrick of Delaware DOT entitled, "Shellpot Bridge Agreement: A Case for Public-Private Cooperation." FHWA Talking Freight Seminars, July 20, 2005

### **Funding Sources**

\$5 million in grant appropriations from the State of Delaware. The balance of the project cost was funded from a bond issued by the state to be repaid by user charges collected from Norfolk Southern on the bridge over the next 20 years. Charges are on a sliding scale. They start at \$35 per car and fall to a minimum of \$5 with volume.

### **Financing Mechanisms**

See above.

### **Institutional Arrangements**

Public-private partnership between railroad and the state.



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